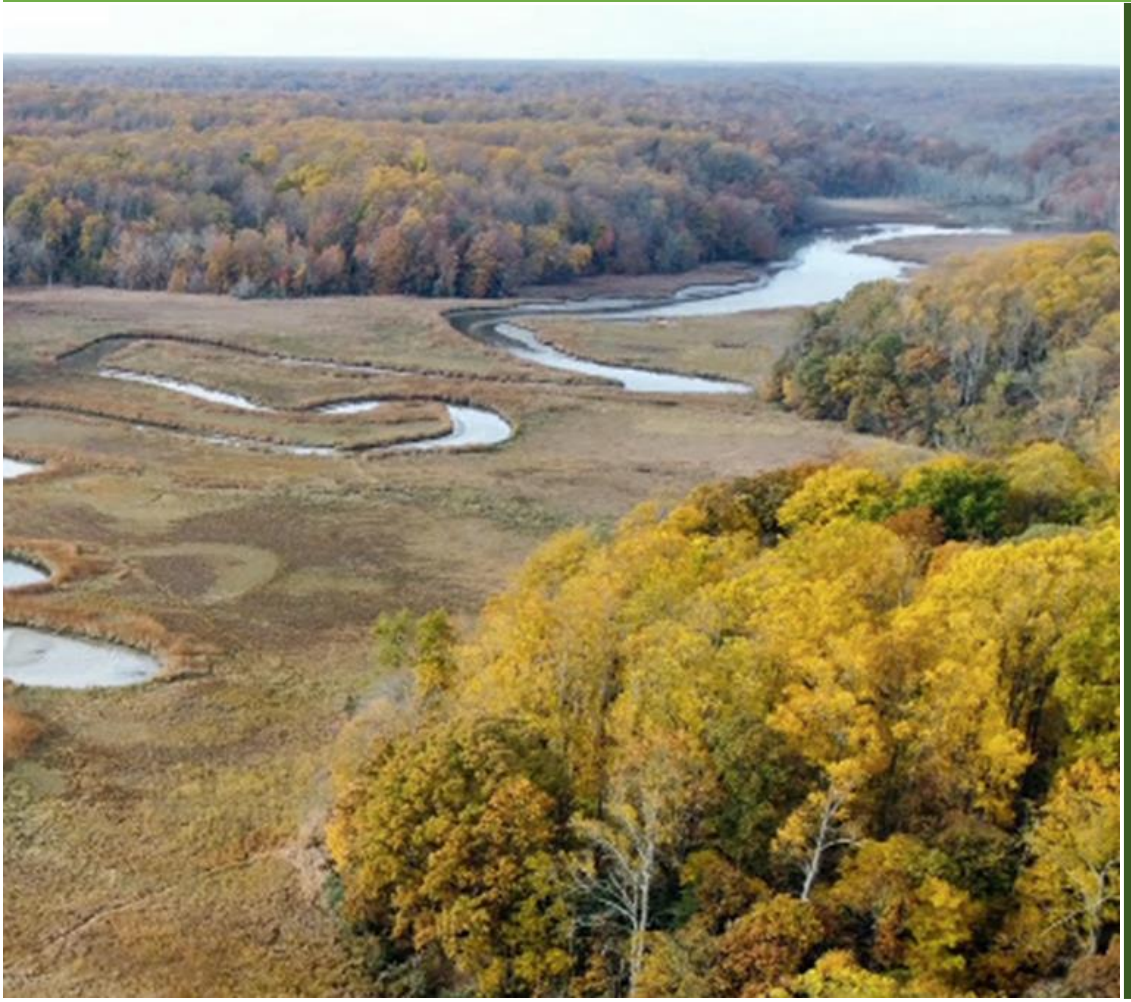
Parkers Creek Report Card - 2021



INDICATORS

- Overall Health

- Percent Preserved
- Land Use
- Impervious Surfaces
- Riparian Buffers
- Water
- Flora and Fauna
- Connecting People to the Land
- Risks to the Watershed

Key - Excellent - Good - Fair - Stressed - Poor - No Score

Natural Places Matter

Natural places make people feel happier and healthier.

But they do so much more than that. They —

- Remove pollution from the air we breathe and the water we drink.
- Support wildlife, including pollinators needed for our food production.
- Reduce flooding and droughts, and their negative effects.
- Reduce climate change by absorbing and storing carbon.

These are called **ecosystem services** and are needed to keep our earth livable.

For all of these reasons, ACLT is committed to preserving natural places here in Calvert County and in Southern Maryland.

Why a Report Card?

ACLT monitors the land and the water to see how they are affected by changes. Changes can both positively and negatively affect the land and water. Here are just a few:

Changes with negative impacts:

- Climate change, invasive species, new developments built on steep slopes, loss of protective laws and regulations

Changes with positive impacts:

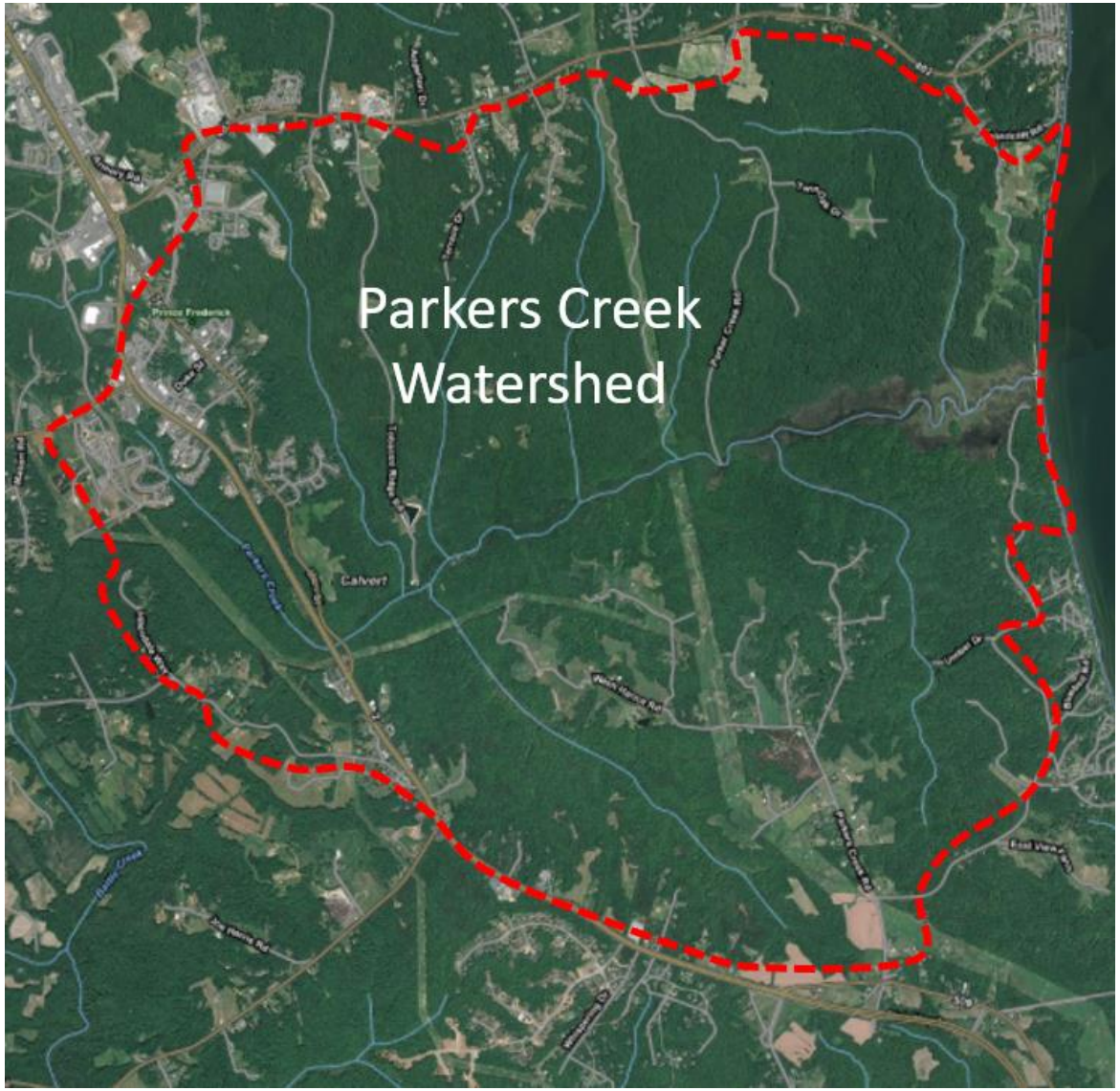
- Beneficial farming practices, forest buffers grown around feeder streams, native plantings, reduction of stormwater runoff, increases in protected natural lands

This year ACLT is starting its report card to monitor, and report to you, the health of Parkers Creek Watershed. This will allow us to pinpoint trouble spots and identify practices that benefit our natural places…and to make you a part of the process.

Indicator

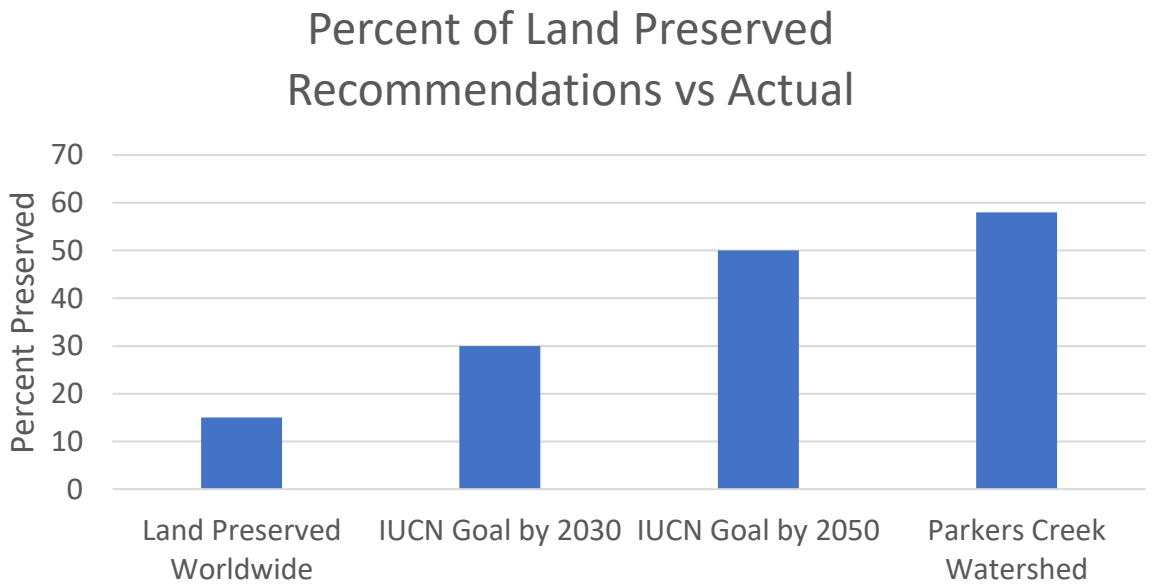
Percent of Land Preserved -

Excellent



Because humanity needs the **ecosystem services** provided by natural places, the World Conservation Congress of the International Union for Conservation of Nature (IUCN), approved Motion 101, which calls for the protection of 50% of Earth's lands and seas with a minimum of 30% to be protected by 2030 (30x30). Currently only 15% of the earth's land is protected. A number of nations, including the U.S., are joining in the call for at least 30% of all lands and seas to be protected by 2030.

Maryland coastal plains have close to 50% natural lands (forests and wetlands), but much of that is not preserved, and could be at risk to development. In the Parkers Creek Watershed, ACLT has helped to preserve 58% of all lands, giving it an "Excellent" rating.

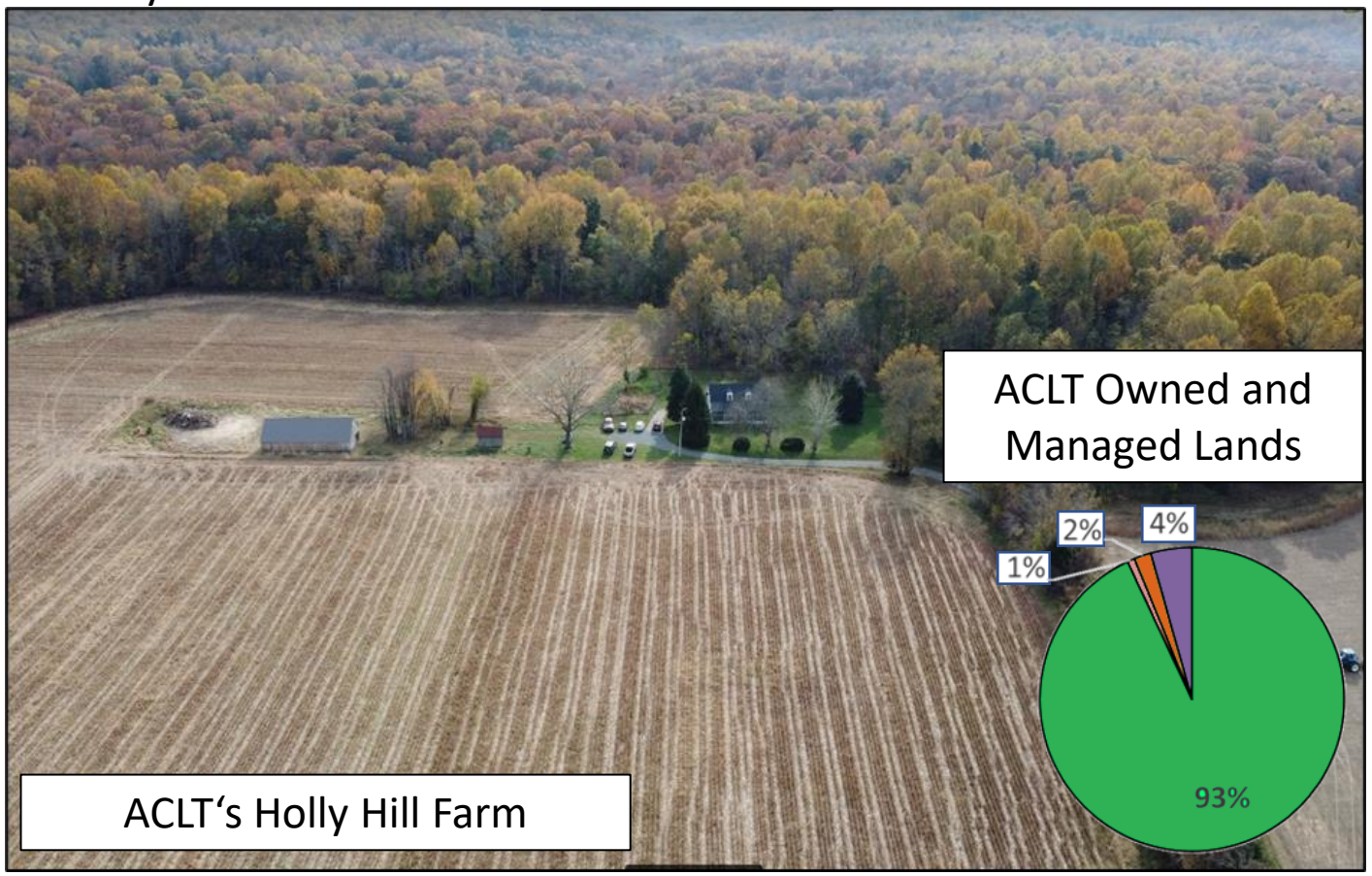


Indicator

Land Use - Good

We need housing, commercial structures, and farms. But they put pressure on our air and water. Maintaining natural lands can help balance this out.

See figures to the right to see how Parkers Creek Watershed stacks up in terms of land use. The current land use mix in Parkers Creek Watershed is **Good**, as the impacts of a major town center are mostly offset by natural lands.

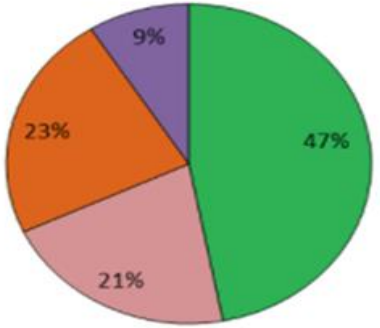


With more natural lands and less developed land, it maintains most of its ecosystem benefits, valued at over $7,000,000 per year, according to the Maryland Greenprint website.

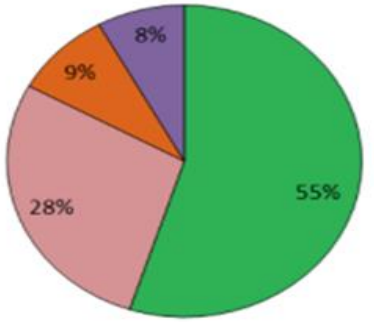
- Natural land
- Developed
- Agricultural
- Mixed open

Learn more here.

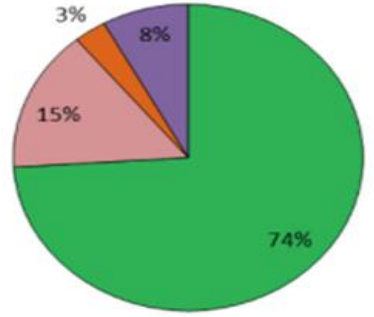
All MD Coastal Plain Watersheds*



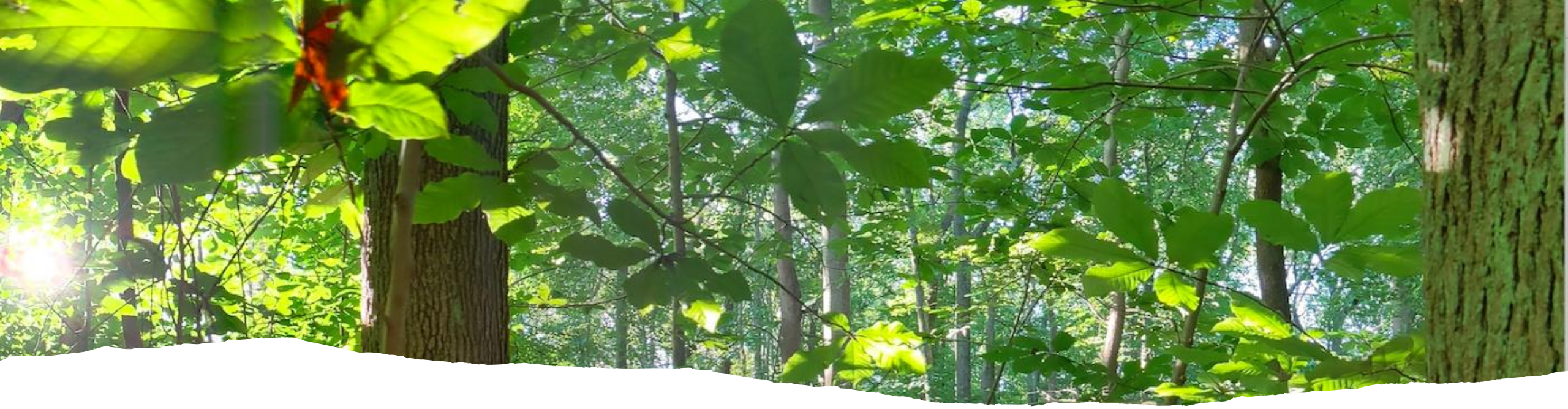
Calvert County Watersheds



Parkers Creek Watershed



* Does not include watersheds smaller than 10% the size of Parkers Creek watershed



Ecosystem Services

YEARLY ecosystem services provided by ACLT forests and wetlands:

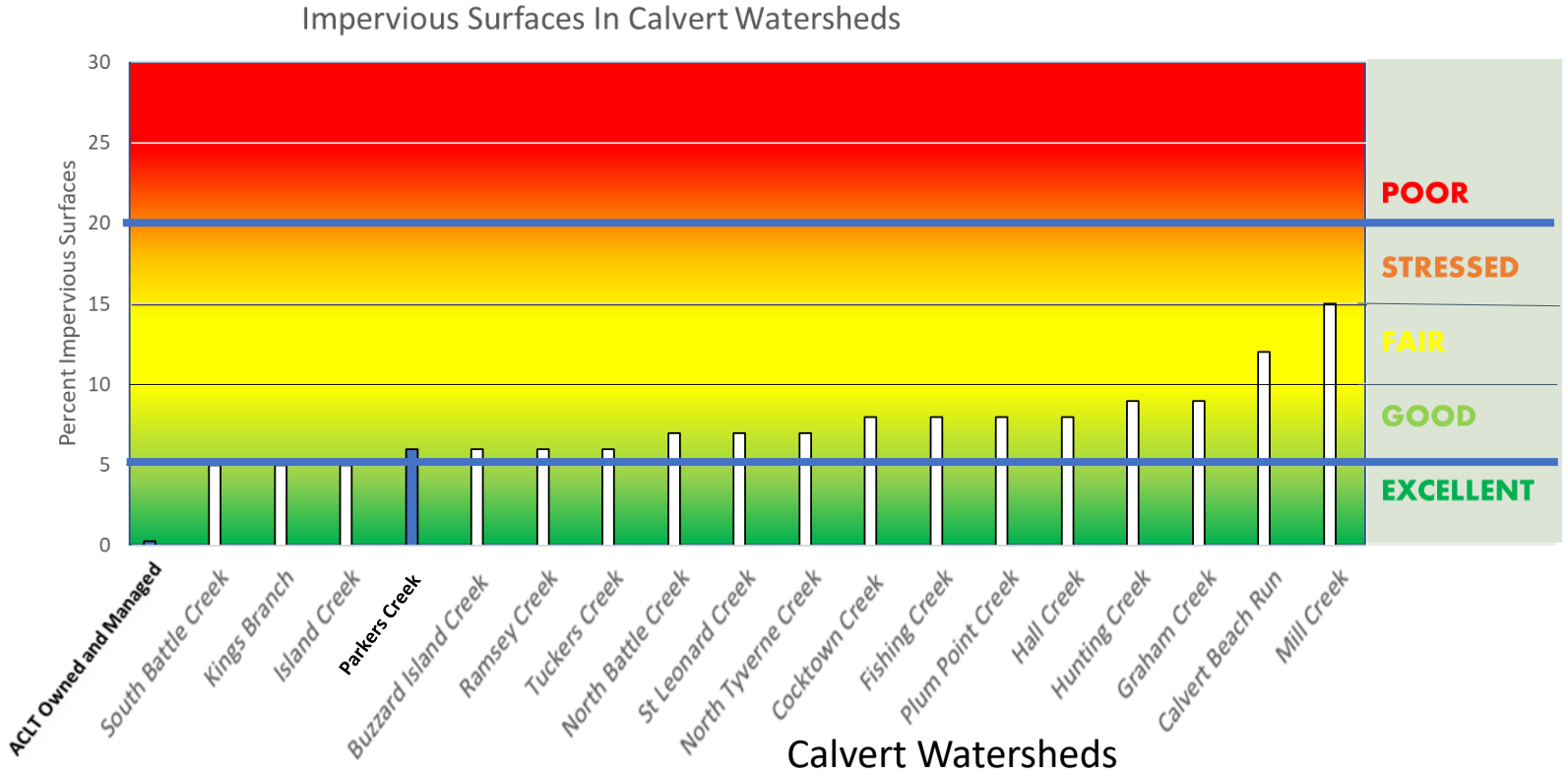
- Absorb over 150 tons of pollutants that would otherwise be in the air we breathe or in the Bay.
- Contained 320,000 tons of carbon stored as of 2019, and continue to soak up another 18,000 tons per year out of the atmosphere as the forests grow and mature.
- Replenish over 65 million gallons of water to the aquafers, feeding our wells and rivers.
- Save $2,796,476 in flood prevention and stormwater mitigation.
- Provide habitat for a biodiverse wildlife. ACLT is designated an Important Bird Area, and has several endangered and at risk species that are of conservation priority.

Indicator

Impervious Surfaces - Good

Impervious surfaces are hardened surfaces that don't allow the water to pass into the ground. They include roads, buildings, sidewalks, and parking lots.

Impervious surfaces lead to erosion, flooding, and accumulation of pollutants in our streams. They increase temperatures in our cities and streams. And they collect the rainwater and rush it off into the nearest stream, so that aquifers don't get fed, and wells can go dry. Parkers Creek Watershed gets a **Good** rating, but excessive growth in the Prince Frederick Town Center would be damaging.



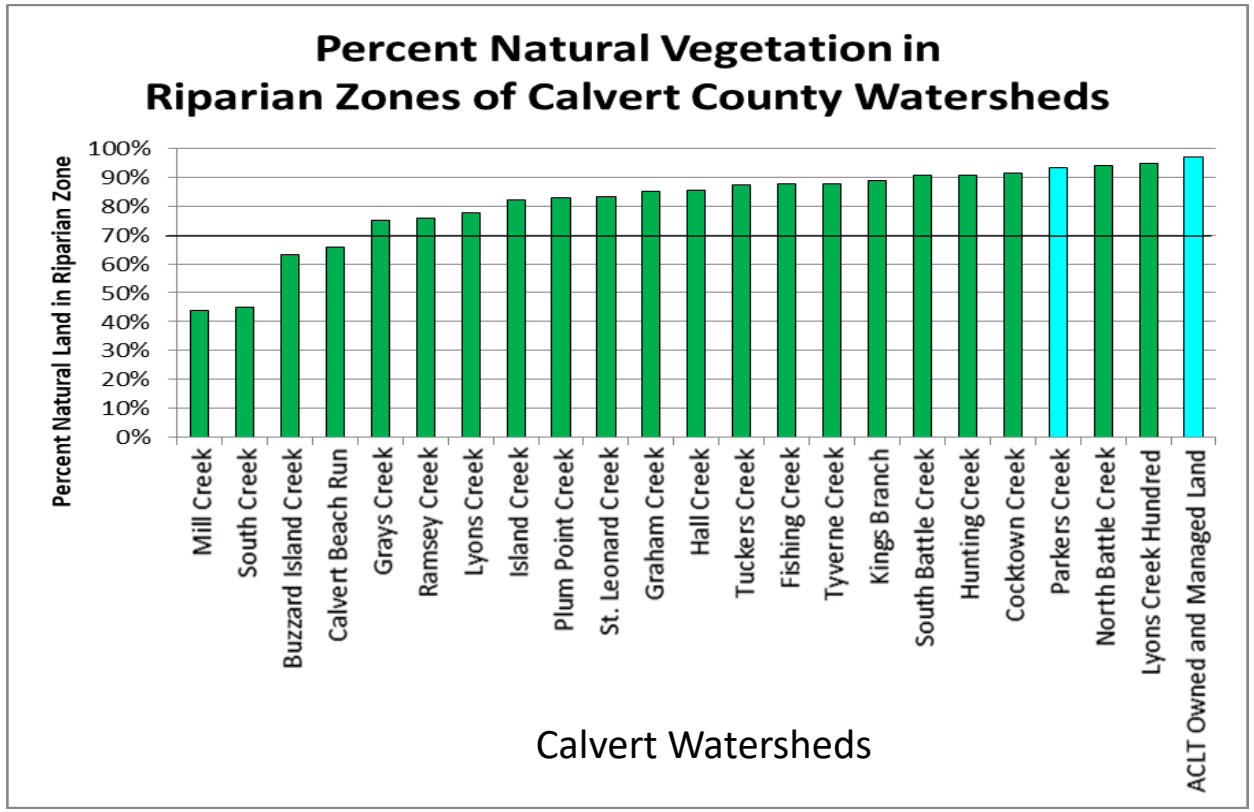
Indicator

Riparian Buffers - Excellent

Riparian buffers are naturally vegetated lands along a stream that act to protect that stream and other waterways the stream feeds. The Chesapeake Bay Program has set the goal for 70% of all Chesapeake watershed streams to be buffered.

Buffers shade streams, keeping them from getting overheated. They act as filters, removing sediment, nutrients and bacteria as water flows into streams. And they also stabilize streambanks, preventing them from eroding. Unbuffered streams, even far upstream, can bring nutrients and sediments that pollute lower streams and the bay.

With 92% of its streams buffered, Parkers Creek Watershed gets an **Excellent** rating.



Water

Streams allow the movement of resources through the landscape. Fish can travel up and down streams for food and to reproduce. Mussels can move through streams by hitching a ride on an eel. And nutrients are transported by streams, and eventually to the bay. These nutrients are important to the growth of plants, but too much of a good thing can be a problem.

By monitoring nitrogen, phosphorus and total suspended solids in our streams, ACLT can become aware of issues upstream that can lead to problems downstream.

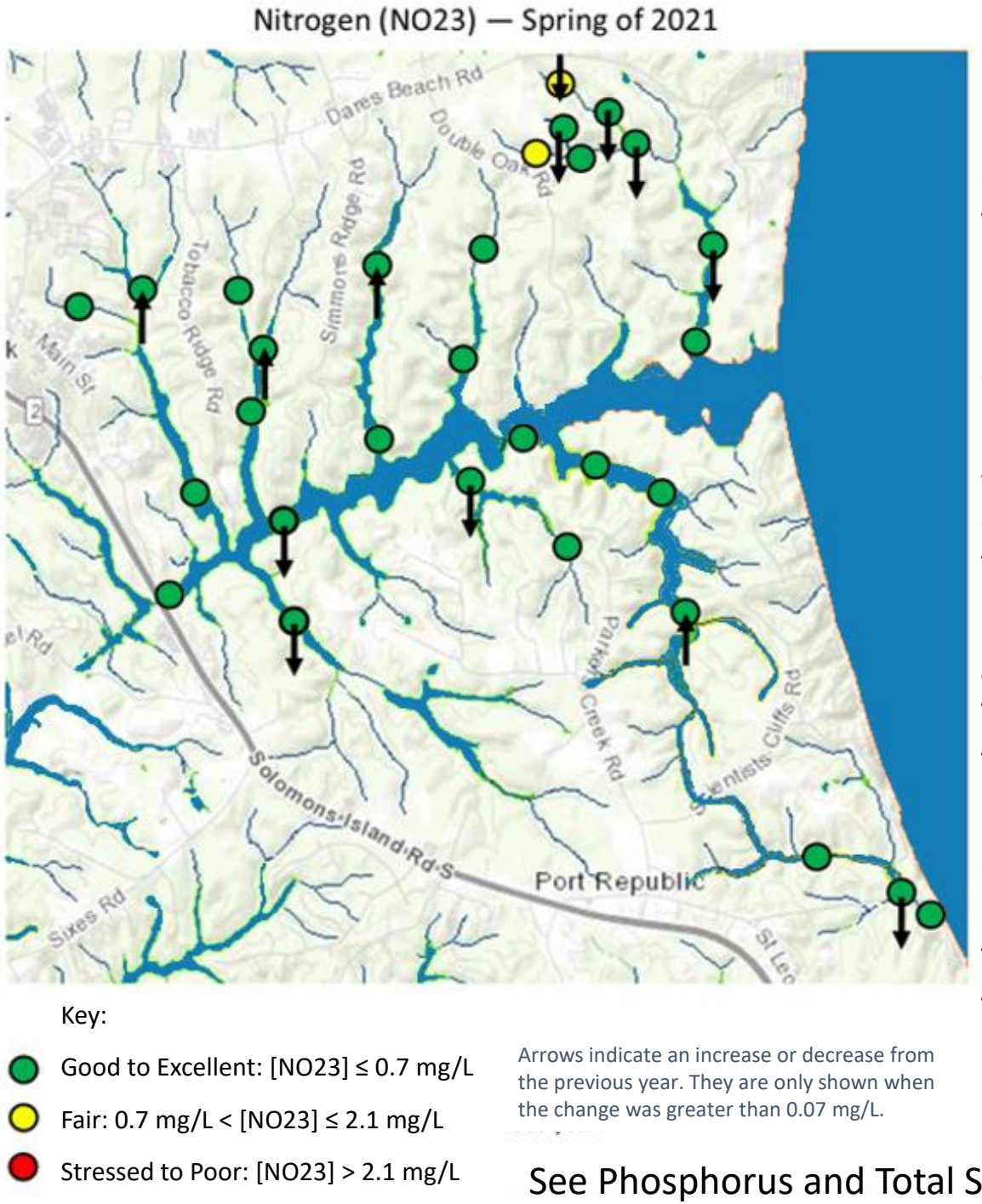
Indicator

Water: Nitrogen - Excellent

Too much nitrogen in our streams, in combination with phosphorus, leads to explosive population growth of algae. This is called an algal bloom. Algal blooms can cause dead zones where the water has little to no oxygen and can be more acidic. Blooms leads to the death of key species such as underwater sea grasses and shellfish.

Historically, nitrogen came mostly from decayed organic matter. However, nitrogen levels in waterways have increased considerably over the years. New sources of nitrogen are:

- sewage treatment plants and septic systems
- animal feedlots and pet waste
- fertilizers
- car exhaust
- power plants and other industrial combustion



Nitrogen levels are **Excellent** in Parkers Creek and associated streams, except for a few that run directly off of Holly Hill farm.

Since purchasing Holly Hill in 2017, ACLT has put in sustainable practices that should begin to help. The farm now grows cover crops in the winter, and a 45 ft buffer has been planted, keeping stormwater from running directly off of the farmland and into the streams.

See Phosphorus and Total Suspended Solids here.

Flora and Fauna

In partnership with local scientists, ACLT volunteers have completed surveys of its fish, reptiles, amphibians, birds and forests. Click here to see what was found.

Connecting People to the Land

Studies have shown that being outside reduces stress, anxiety and depression, and improves our health. People who spend time outside come to love the outdoors. They become the best advocates and volunteers for conserving and protecting this precious resource. And it's just plain old fun to be outside!

ACLT Connects People to Parkers Creek Watershed

- 24 Miles of Trails
- Over 140 Master Naturalists since 2013
- 1890 Participants in Events
- 74,080 Visitors to Trails
- 199 Canoers on 10 trips
- Over 30 Hunters
- 144 Volunteers (farming, managing the lands & properties, working events, leading hikes, and doing citizen science)
- 1978 Participants in 12 in '21 Hikes (with 200 completing the challenge)
- 3,296 pounds of food harvested from the farm for the St. John Vianney foodbank
- 741 Members of ACLT's Facebook Hiking Challenge Group
- 217 Participants in Moonlit and other Guided Hikes











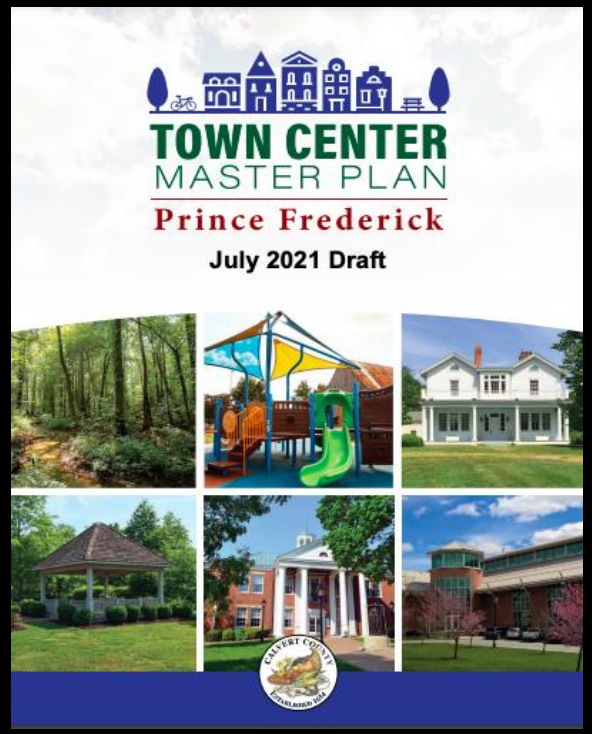


Guide

Indicator

Risks to the Watershed - Stressed

There are many threats to the Parkers Creek Watershed.
Click here to learn more

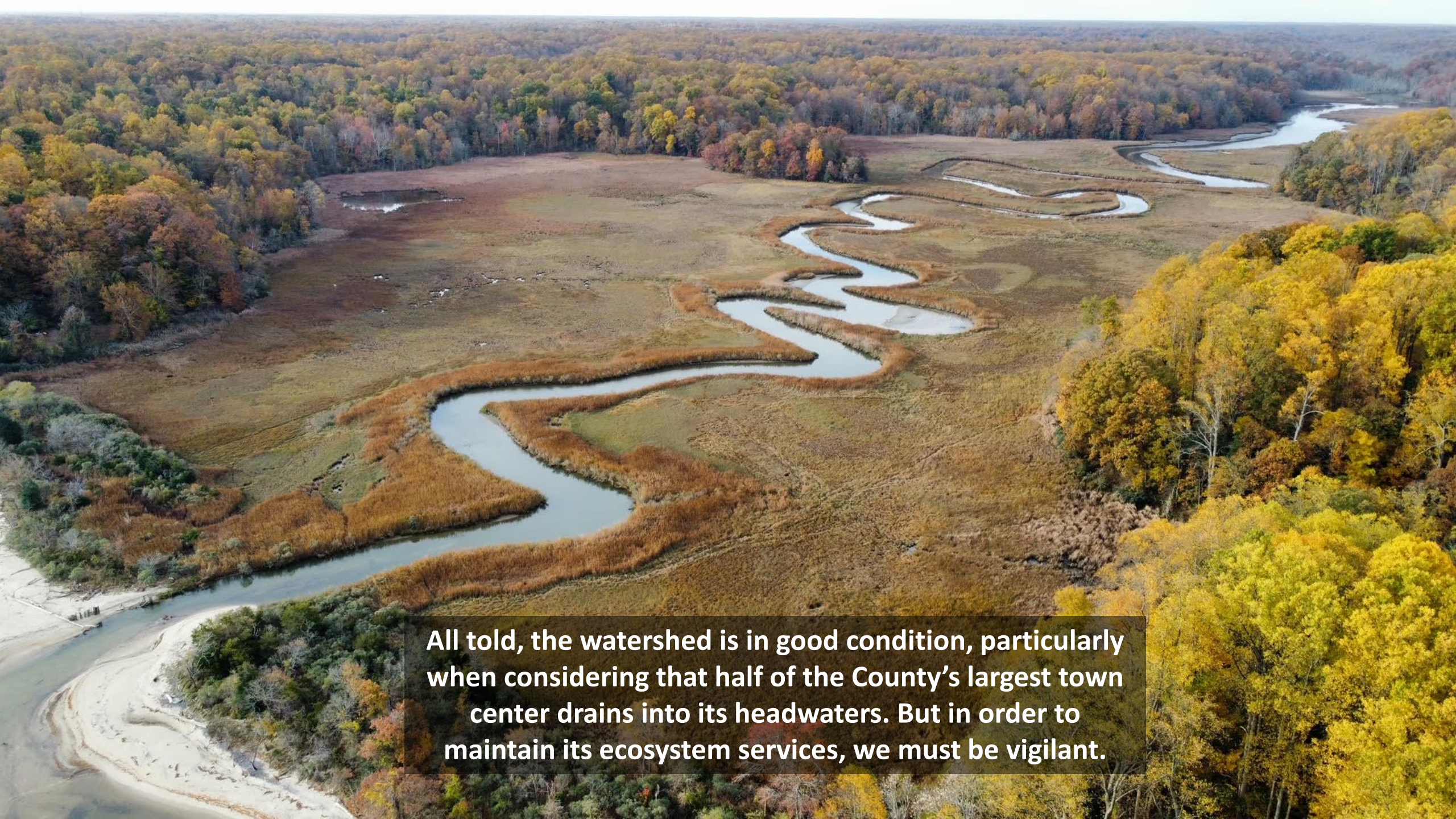


10,000 More Households

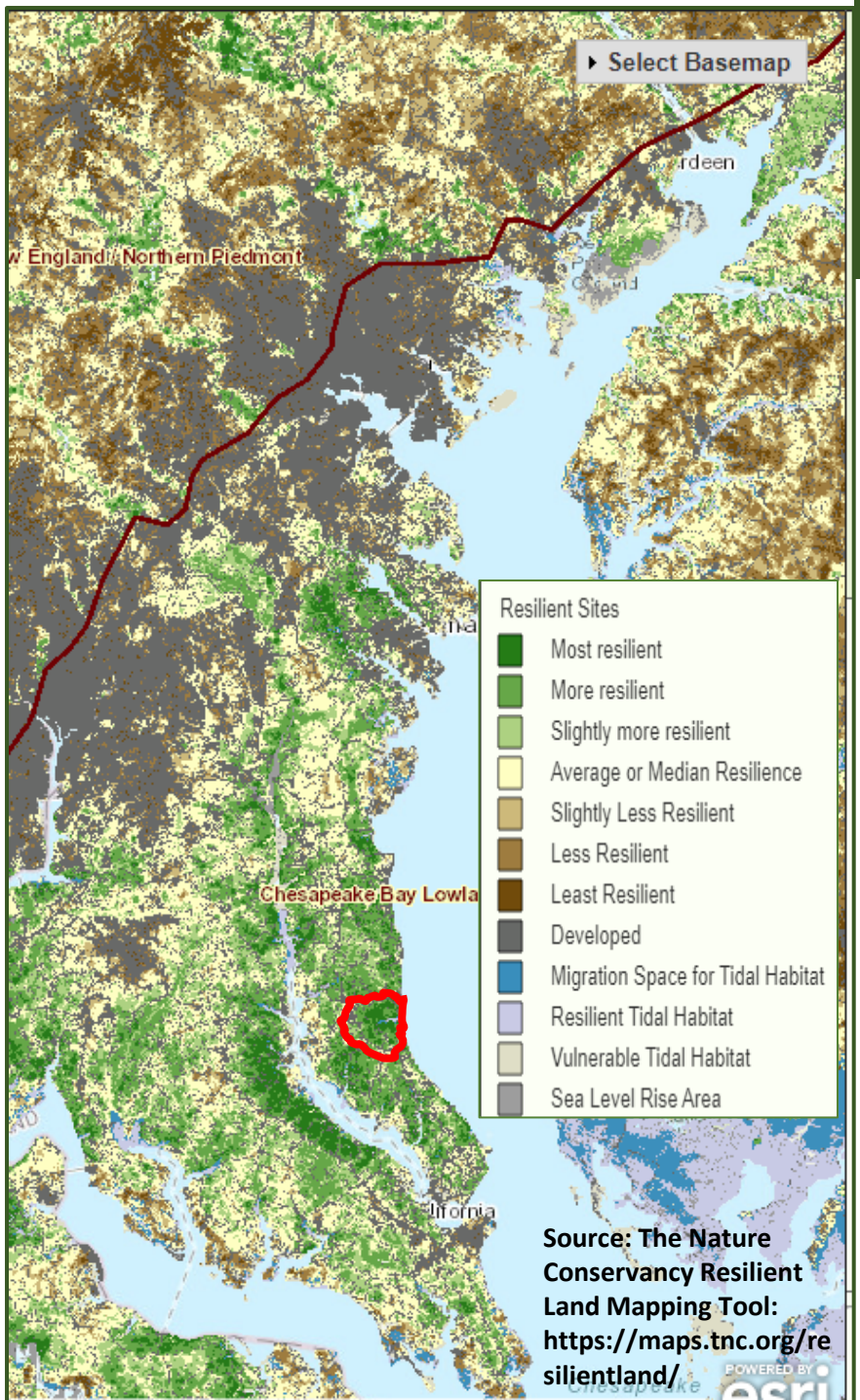
Invasive Northern Snakehead

Invasive Wavyleaf Basketgrass

Climate Change


All told, the watershed is in good condition, particularly when considering that half of the County's largest town center drains into its headwaters. But in order to maintain its ecosystem services, we must be vigilant.

Maryland Department of Natural Resources has called the Parkers Creek Watershed “the Most Pristine Watershed on the Western Shore of Md.”



This statement is as much a testimony to the loss of natural lands all throughout the Western Shore of Maryland as it is to the healthy rate of land preservation in Calvert County over the last 50 years. The map to the left is prepared by The Nature Conservancy. It maps the resiliency of lands, estimating their capacity to maintain species diversity and ecological function as the climate changes.

Shades of green indicate resilient lands with dark green representing the most resilient lands. Most of the Parkers Creek Watershed is shown as dark green, rare along the western shore of the Chesapeake Bay.

Acknowledgements

- The land use and forestry data comes from Chesapeake Conservancy/Chesapeake Bay Program.
- Ecosystem Services data comes from the Maryland Greenprint Website.
- Other data comes from surveys conducted by ACLT's Science Committee.

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